ACCURACY PERFORMANCE ACCOUNTABILITY

Obligations Accounting

Presented by:
Mitch Hembree & Len Myers
NMMSS

Obligations Accounting

Goals

- What are foreign obligations
- What is the function of foreign obligations
- Obligation statistics
- NMMSS requirements for obligations
- NMMSS reporting problems commonly experienced

Obligations Accounting

Foreign Obligations

- Foreign obligations = Assurances that material or equipment is transferred pursuant to an Agreement for Peaceful Nuclear Cooperation
- Agreements for Cooperation are necessary, per Section 123 of the Atomic Energy Act of 1954, as amended
- Allow U.S. to trade nuclear material and equipment with foreign countries

Obligations Accounting

Foreign Obligations (continued)

- Items subject to an Agreement are “obligated”
- Material can have multiple obligations
- Safeguard and peaceful use guarantees
  - Official Government to Government notice
  - Facilities are asked to verify material is for peaceful uses and will be made subject to the agreement
  - Assurances must be given prior to ship

Obligations Accounting

U.S. Bilateral Agreements for Peaceful Nuclear Cooperation Pursuant to Section 123 of the Atomic Energy Act of 1954, as amended

Agreements in Force as of April 2010

- Argentina
- **Australia**
- Bangladesh
- Brazil
- **Canada**
- China
- Colombia
- Egypt
- **European Atomic Energy Community (Euratom)**
- Indonesia
- India
- **International Atomic Energy Agency (IAEA)**
- **Japan**
- Kazakhstan
- Korea, Republic of
- Morocco
- Norway
- Romania
- South Africa
- **Switzerland**
- Taiwan
- Thailand
- Turkey
- Ukraine
- United Arab Emirates

Obligations Accounting

Reciprocal Agreements

- Most Agreements are reciprocal in nature: however, the U.S. Government has been required to track nuclear materials and produced nuclear materials from several of these countries: Australia, Canada, Euratom*, Japan, China, and Switzerland

*Euratom consists of the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, and the United Kingdom

Obligations Accounting

NMMSS Obligations History

Obligations Accounting

Initial NMMSS approach to Obligations Accounting

- Country Control Number (CCN)
  - Eight character code composed of four sets of two character country/entity/organization codes
  - Used to track foreign material since 1979
- Some deficiencies in the way foreign obligations data was collected and maintained.
  - Governments placing obligations on material that does not fit one of the four sets of codes (i.e. conversion, fabrication, reprocessing, storage)
  - Material that may be obligated by the equipment through which it was processed or produced
- Origin swapping

Obligations Accounting

Current NMMSS Obligation Accounting System

- Discontinued CCN as a way to identify obligations on nuclear material
- U.S. facilities were notified of their beginning foreign obligated balances
- Applies to individual transactions as well as periodic material balances
- Changes to NRC regulations (NUREGS)

Obligations Accounting

Current System (continued)

- New action codes to show obligations exchanges between facilities as well as removal of WR material at reactors
- Effective for transactions with an action date of 10/1/2003 and later
- 94% of foreign obligations are held at NRC facilities
- Periodic reporting: all activity reported to foreign governments originate from 741 data

Obligations Accounting

Obligated Material Types

Type	Domestic Code	Import/Export Code	Reportable Unit of Measurement
Depleted Uranium	10	D	Kilogram Uranium
Enriched Uranium	20	EG	Gram Uranium U-235
Plutonium	50	P	Gram Plutonium
Uranium-233	70	EK	Gram Uranium U-233
Natural Uranium	81	N	Kilogram Uranium
Thorium	88	T	Kilogram Thorium

Obligations Accounting

Country Obligation Codes

Code	Country Obligation
31	**Australia**
32	**Canada**
33	**Euratom**
34	**Japan**
35	People's Republic of China
37	Switzerland
38	Argentina
39	Brazil
40	Chile
81	Australia/Japan

Code	Country Obligation
82	Canada/Japan
83	Euratom/Japan
84	Australia/Euratom/Japan
85	Canada/Euratom/Japan
86	China/Japan
87	Australia/Japan
88	Australia/Canada/Euratom
91	**Australia/Euratom**
92	**Canada/Euratom**
WR	Former Soviet Union Weapons Material

Obligations Accounting

NMMSS Obligation Activities

- Monthly obligation inventory reports sent to various Agreement Countries
- Annual obligation inventory reports sent to various Agreement entities

NOTE: Other than Japan, all country reports are of a similar format based on material type. The Japan report is based on equipment rather than type of material.

Entity	Required	Monthly	Annually
Australia	√	√	√
Canada	√	√	√
Euratom	√	√	√
Japan	√	√	√
Switzerland	√		√
China			√
Chile			√
Brazil			√
Argentina			√

Obligations Accounting

New NMMSS Obligation Activities

- Maintain transfer and retransfer information contained in foreign government notifications or other diplomatic documents from U.S. Agreement partners
- Pair foreign government notifications to NMMSS transaction data (transit matching)
- Perform notification follow-up with facilities as necessary based on transit matching activity
- Investigate inquiries from Agreement partners concerning foreign obligated nuclear material

Obligations Accounting

NMMSS References

- Reports available (IA-OBL-05)
- Reconciliation of foreign obligations at facilities for improved reporting pursuant to the various Agreements for Cooperation
- NMMSS tracks Agreement notifications relating to Euratom, Canada, Australia, and Japan
- NMMSS will issue formal notifications to facilities if and when
  - New obligation codes are added
  - There is a change involving an Agreement that requires a change in code
  - Notices to industry

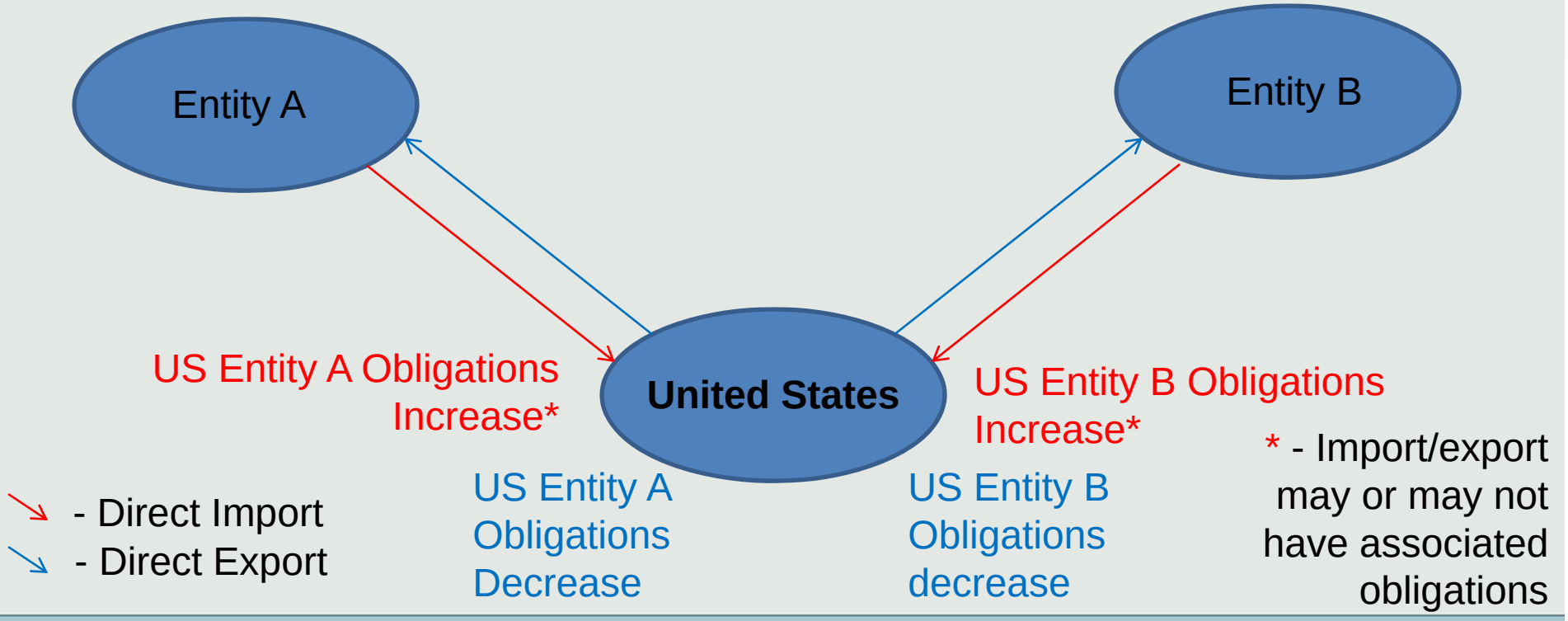
Obligations Accounting

Conditions that Drive Obligations

- Direct Import
- Direct Export
- Indirect Import
- Indirect Export
- Retransfer
- On-site Increase/Decrease

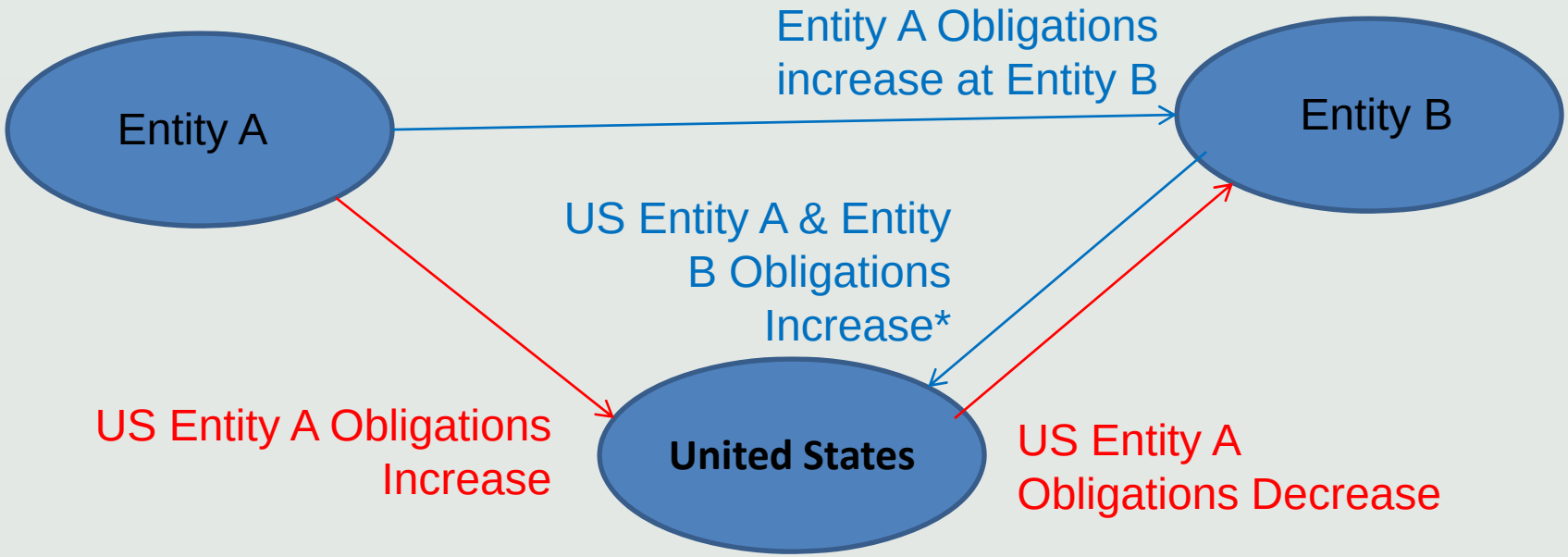
Obligations Accounting

Direct Import and Export



Obligations Accounting

Indirect Import and Export

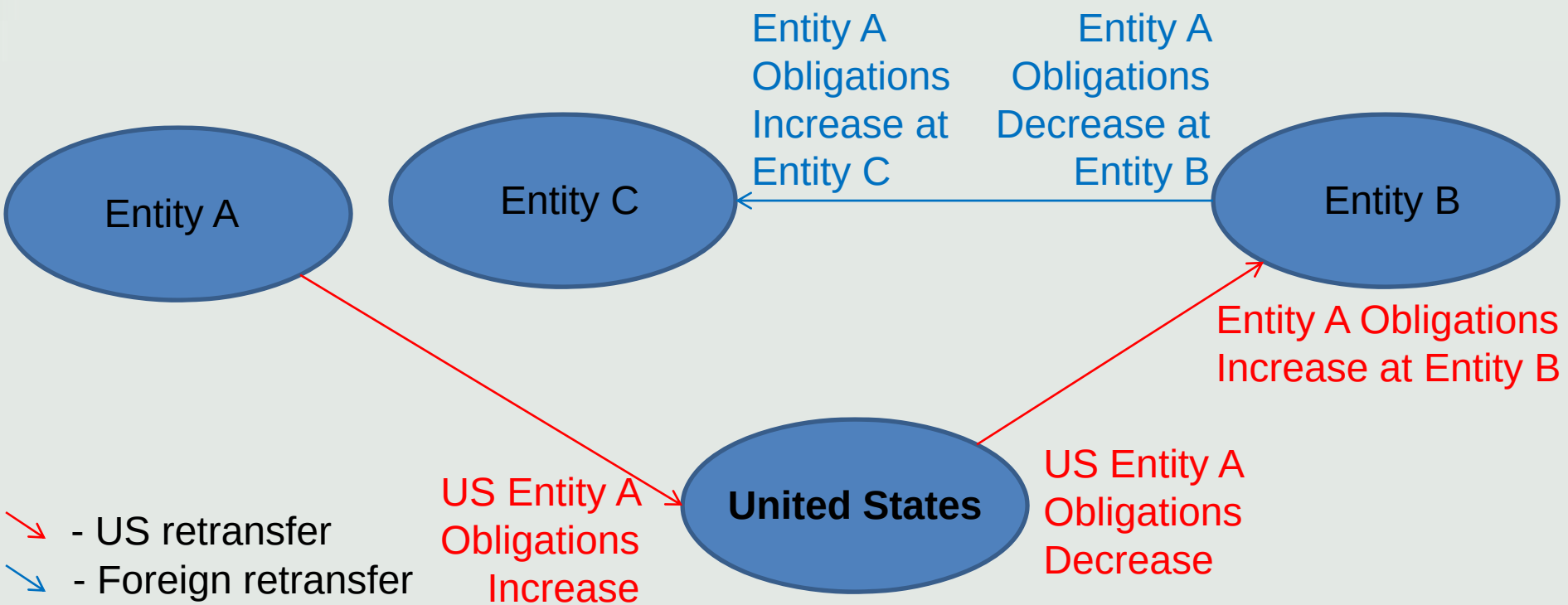


↘ - Indirect Import
↘ - Indirect Export

* - in most cases

Obligations Accounting

Retransfer



Obligations Accounting

On-site Increase/Decrease

Increase

- Production
- From other Materials

Decrease

- Fission & Transmutation
- Normal Operational Loss
- Rounding Bias
- Degradation to other Materials
- Decay

Obligations Accounting

Obligation Increases

Obligations Accounting

Activities resulting in Obligated Balance Increases

- Import of natural uranium to conversion and enrichment plants
- Import of enriched uranium to fuel fabrication plants
- Fuel assemblies for foreign reactors
- Nuclear production

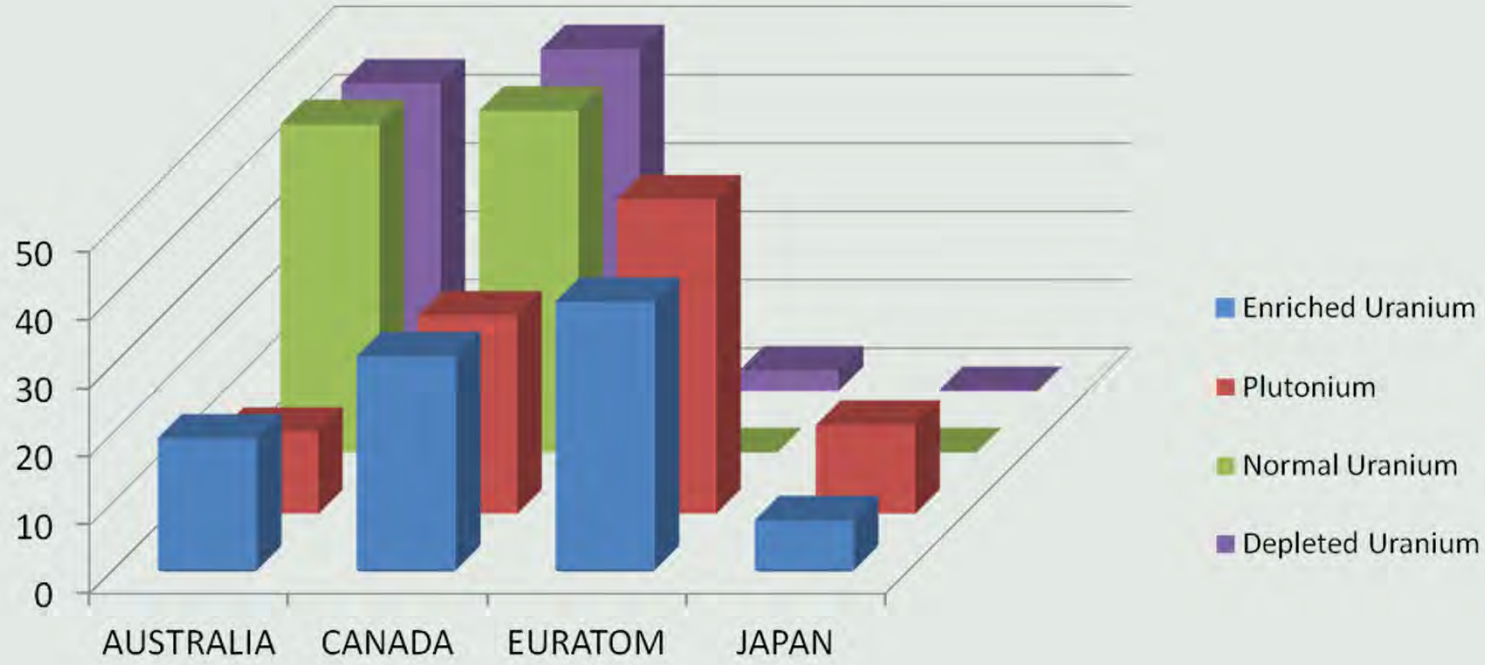
Obligations Accounting

Total Foreign Obligation Increases 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	8,901	354	MT
Plutonium	59	-	MT
Normal Uranium	21,955	-	MT
Depleted Uranium	21,386	-	MT

Obligations Accounting

Entity Distribution of Foreign Obligation Increases 2010-2012



Obligations Accounting

Obligation Decreases

Obligations Accounting

Activities resulting in Obligated Balance Decreases

- Export of natural uranium to conversion and enrichment plants
- Export of enriched uranium to fuel fabrication plants
- Export of fuel assemblies for foreign reactors
- Foreign retransfers
- Nuclear loss

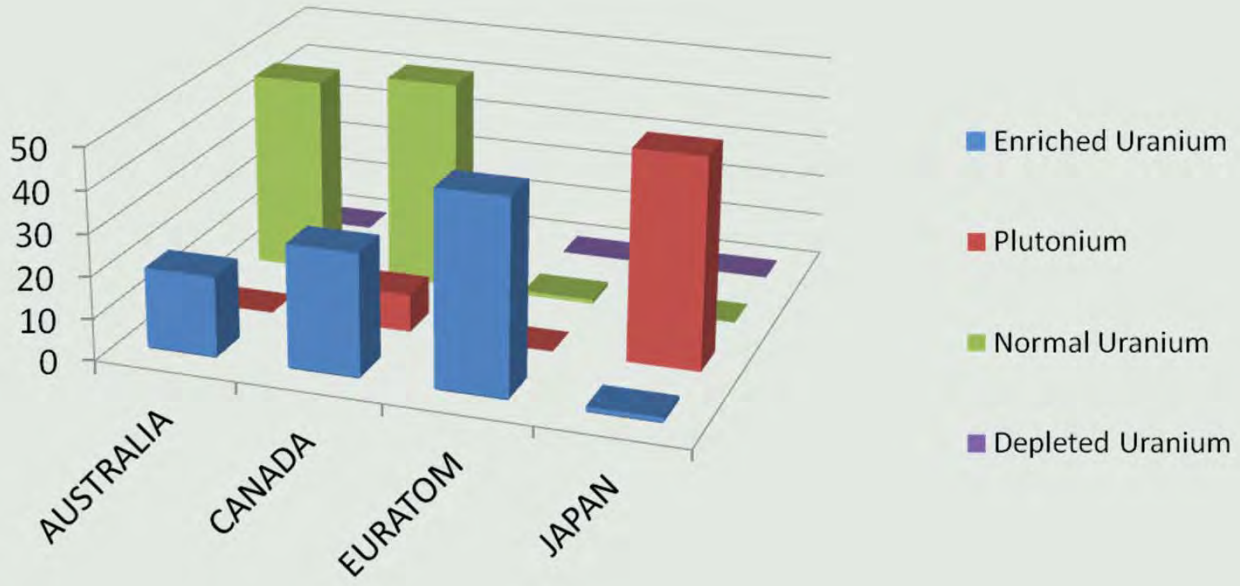
Obligations Accounting

Total Foreign Obligation Decreases 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	2,904	282	MT
Plutonium	2	-	Kg
Normal Uranium	28,347	-	MT
Depleted Uranium	26	0	MT

Obligations Accounting

Entity Distribution of Foreign Obligation Decreases 2010-2012



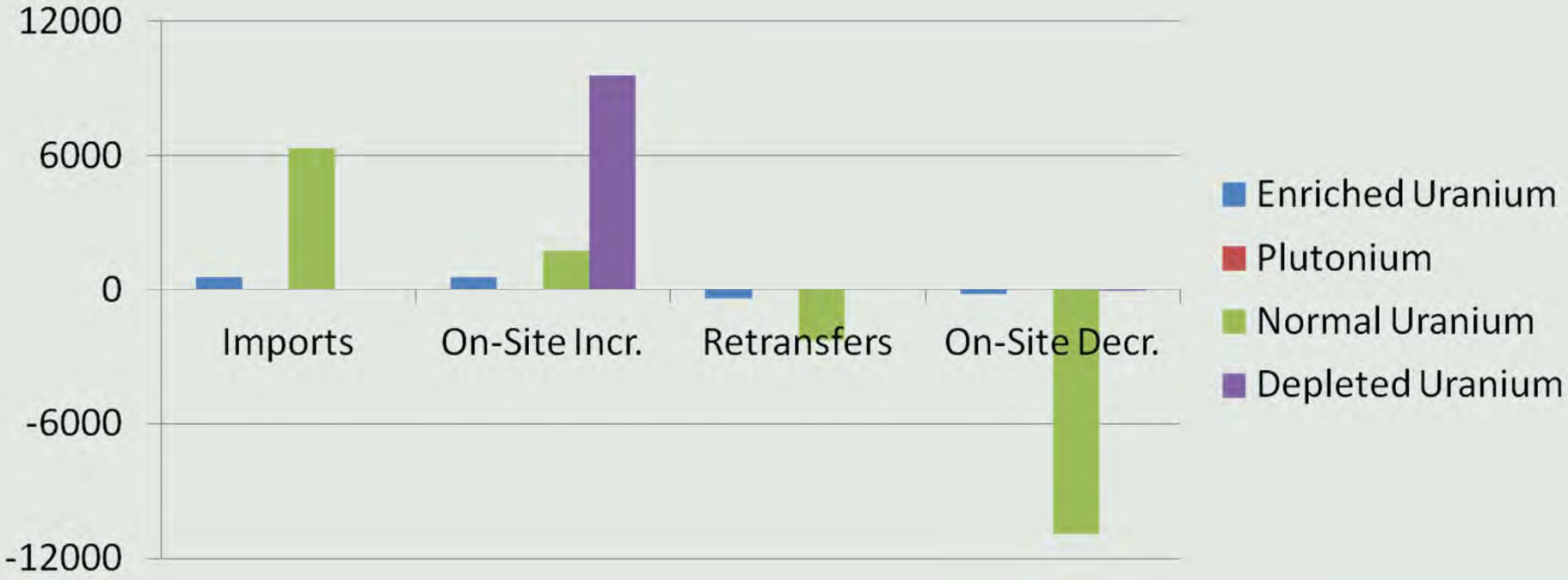
Obligations Accounting

Total Obligations for Australia
December 31, 2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	5,399	89	MT
Plutonium	54	-	MT
Normal Uranium	10,418	-	MT
Depleted Uranium	61,703	-	MT

Obligations Accounting

Activity for Australian Obligated Material 2010-2012



Obligations Accounting

Total Obligations for Canada
December 31, 2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	16,070	227	MT
Plutonium	156	-	MT
Normal Uranium	3,164	-	MT
Depleted Uranium	153,249	-	MT
Thorium	53	-	MT

Obligations Accounting

Activity for Canadian Obligated Material 2010-2012

Obligations Accounting

Euratom* Obligations

*Euratom consists of the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, **France**, **Germany**, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, **the Netherlands**, Poland, Portugal, Romania, Slovak Republic, Slovenia, **Spain**, **Sweden**, and the **United Kingdom**.

Obligations Accounting

Total Obligations for Euratom
December 31, 2012

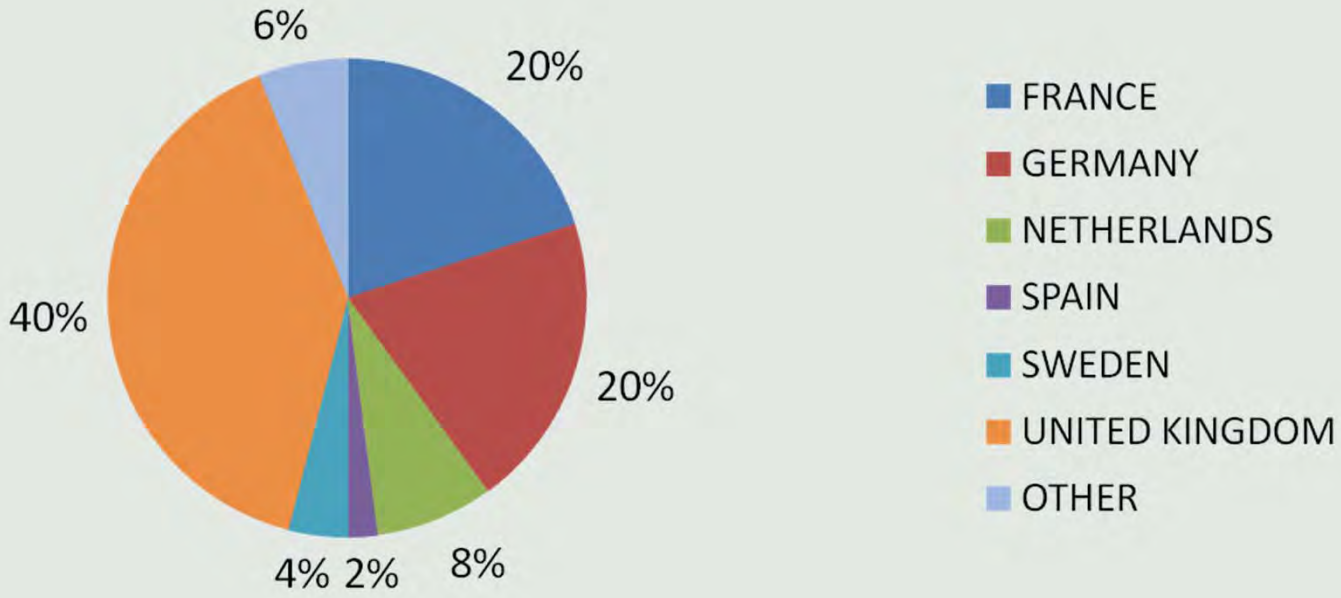
Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	11,395	204	MT
Plutonium	109	-	MT
Normal Uranium	65	-	MT
Depleted Uranium	2,125	-	MT

Obligations Accounting

Activity for Euratom Obligated Material 2010-2012

Obligations Accounting

Distribution of Euratom Obligations 2010-2012



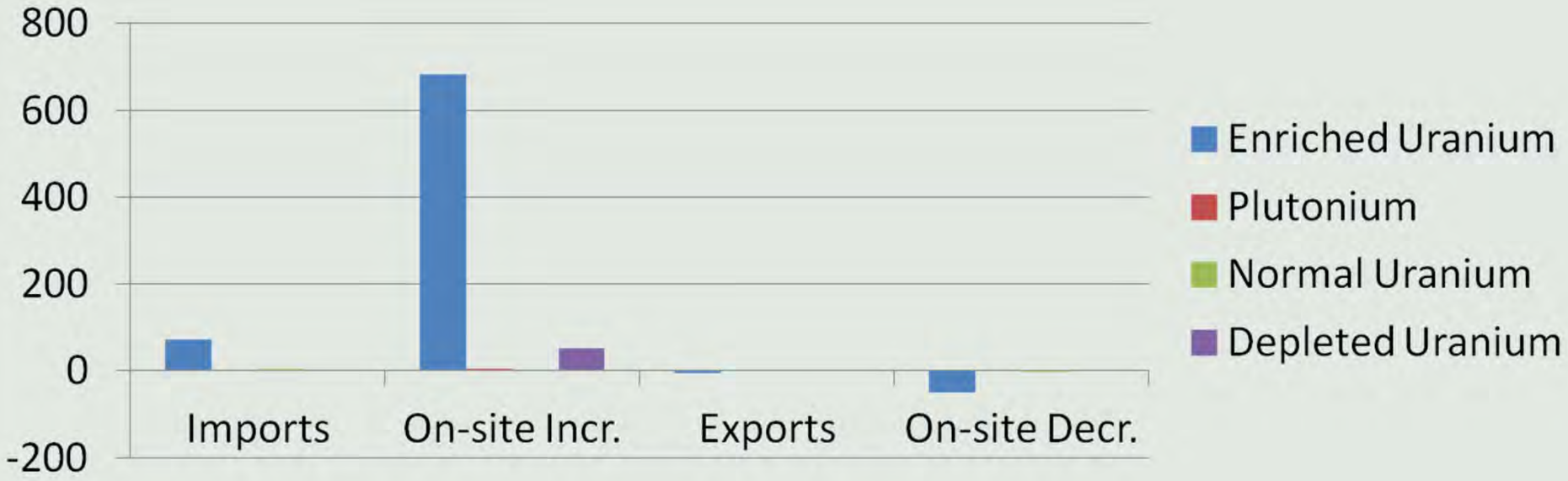
Obligations Accounting

Total Obligations for Japan
December 31, 2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	1,918	31	MT
Plutonium	18	-	MT
Normal Uranium	1	-	MT
Depleted Uranium	102	-	MT

Obligations Accounting

Activity for Japan Obligated Material 2010-2012



Obligations Accounting

NMMSS Reporting Issues with Obligations

- Obligation missing
- Obligation country incorrect
- Obligation material type incorrect
- Obligation quantity incorrect
- Export license should identify authorization for foreign obligated material

Obligations Accounting

CASE Studies

- Import of material from Euratom to the United States
- Import of material from Australia to the United States
- Export of material from the United States to Euratom
- Export of material from the United States to Canada
- Retransfer from Canada to Euratom
- Retransfer from Australia to Euratom

Obligations Accounting

Questions?

ACCURACY PERFORMANCE ACCOUNTABILITY

Foreign Obligations Case Study

Presented by:
Mitch Hembree & Len Myers
NMMSS

Obligations Case Study

General Issues to Consider

- What license is required
- Is the license valid
- Are the shipper and receiver valid NMMSS facilities (RIS)
- Is the reporting unit used appropriate for NMMSS reporting
- Is the quantity above NMMSS minimum reporting requirements

NOTE

These issues are applicable to obligations but were evaluated earlier in the Import/Export Case Study

Obligations Case Study

Obligation Issues to Consider

- Does the license specify appropriate foreign obligations
- Is the correct obligation country code specified
- Does the quantity of obligated material exceed total reported details for that material
- Is the obligation layered (third country obligated)

Obligations Case Study

CASE STUDY 1 – DIRECT IMPORT

A United States DOE facility DOEFAC1 will be receiving a shipment of nuclear material on 8/1/2012 from the Australian facility AUSFAC1 which contain 75,000 grams of Uranium (3000 grams of U235) and 5 kilograms of Plutonium. This shipment is subject to the U.S.-Australian Agreement for Cooperation.

Obligations Case Study

Compare Notice To Industry with Prior Communications

- If a DOE import, receipt of Industry Notice
- Is the quantity stated on the notice consistent
- Is this notice pertinent to shipper and receiver
- Is batch information included
- Are there any 3rd country obligations involved

NOTICE TO SEND TO INDUSTRY

Prior Notification of Proposed Shipment of Nuclear Material from Australia to the United States Pursuant to the U.S.-Australia Agreement for Cooperation

The United States Government advises DOEFAC1 that the following shipment of nuclear material is subject to the U.S.-Australia Agreement for Cooperation and must be tracked in accordance with U.S. rules and regulations.

1. U.S. Reference: ANSTO-999-11
2. Contractual Reference Number – None
3. Shipper's/supplier's name and address: Storage AUSFAC1, KoalaTown, Australia
4. Receiver's name and address DOEFAC1, Intheboonies, AL
5. End user: U.S. DOE
6. Stated end use: Storage at the DOE
7. Expected Date of Shipment: Unknown
8. Batch Number: 11101, 11102, 11103
9. Material Category: LEU, PU
10. Mass (mass of isotope if applicable) 75,000g U (3,000g U235), 5,000g PU
11. Physical Form: Unknown
12. Chemical Form: Unknown
13. Third Country Obligation NONE

Please confirm your receipt of this notice, acknowledging your facility's responsibility to account for the information provided above, by faxing or emailing a signed copy of this form to the person listed below:

For DOE Facilities:

Signature:

Name:

Date:

Comments:

Obligations Case Study

Case 1 Evaluation (Direct Import)

- Are the shipper and receiver valid NMMSS RIS?
  - The RIS for DOEFAC1 is F08
  - The RIS for AUSFAC1 is RA01
- Is the reporting unit used appropriate for NMMSS reporting?
  - The case description shows the correct NMMSS reporting quantity of enriched uranium in grams
  - The case description shows the quantity of plutonium in kilograms. NMMSS requires plutonium to be reported in grams
- Is the total quantity above NMMSS minimum reporting amount?
  - For enriched uranium and plutonium, NMMSS requires reporting for amounts equal to or greater than 1 gram

THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)

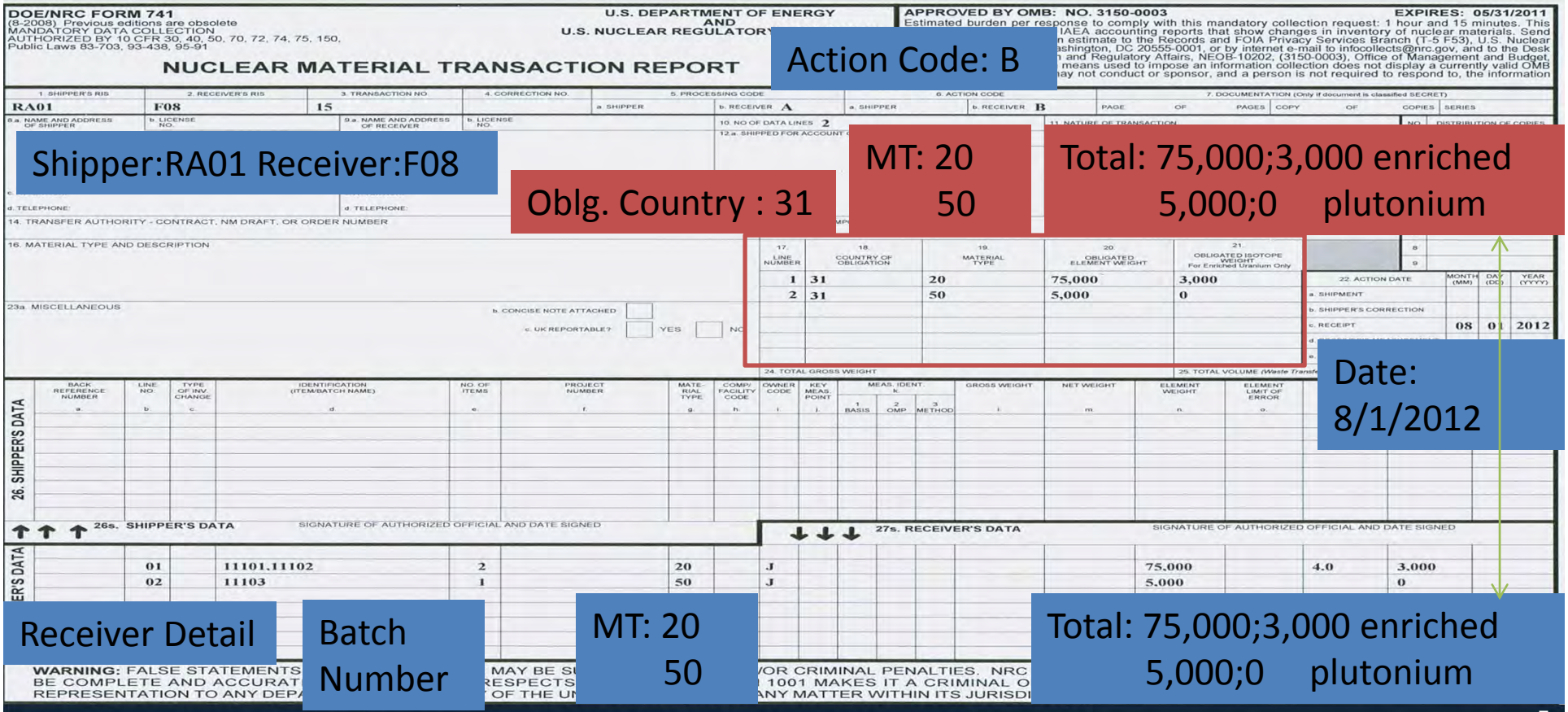
NMMSS 2013

USERS ANNUAL TRAINING MEETING

MAY 20-23, 2013 - ST. LOUIS, MISSOURI

Obligations Case Study

Case 1 NMMSS 741 (Receiver Document)



DOE/NRC FORM 741
(8-2008) Previous editions are obsolete
MANDATORY DATA COLLECTION
AUTHORIZED BY 10 CFR 30, 40, 50, 70, 72, 74, 75, 150,
Public Laws 83-703, 93-438, 95-91

U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY

APPROVED BY OMB: NO. 3150-0003 EXPIRES: 05/31/2011

NUCLEAR MATERIAL TRANSACTION REPORT

Action Code: B

1. SHIPPER'S RIS	2. RECEIVER'S RIS	3. TRANSACTION NO.	4. CORRECTION NO.	5. PROCESSING CODE	6. ACTION CODE
RA01	F08	15		a. SHIPPER	b. RECEIVER A

Shipper:RA01 Receiver:F08

Oblg. Country : 31

MT: 20
50

Total: 75,000;3,000 enriched
5,000;0 plutonium

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only
1	31	20	75,000	3,000
2	31	50	5,000	0

22. ACTION DATE — a. SHIPMENT; b. SHIPPER'S CORRECTION; c. RECEIPT: MONTH (MM) 08, DAY (DD) 01, YEAR (YYYY) 2012

Date:
8/1/2012

26. SHIPPER'S DATA

BACK REFERENCE NUMBER a	LINE NO. b	TYPE OF INV. CHANGE c	IDENTIFICATION (ITEM/BATCH NAME) d	NO. OF ITEMS e	PROJECT NUMBER f	MATERIAL TYPE g	COMP/ FACILITY CODE h	OWNER CODE i	KEY MEAS. POINT j	MEAS. IDENT. k. 1 BASIS	2 OMP	3 METHOD	GROSS WEIGHT l	NET WEIGHT m	ELEMENT WEIGHT n	ELEMENT LIMIT OF ERROR o
	01		11101,11102	2		20		J							75,000	
	02		11103	1		50		J							5,000	

26s. SHIPPER'S DATA — SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

27s. RECEIVER'S DATA — SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

4.0	3.000
	0

Receiver Detail

Batch Number

MT: 20
50

Total: 75,000;3,000 enriched
5,000;0 plutonium

WARNING: FALSE STATEMENTS ... MAY BE SU ... VOR CRIMINAL PENALTIES. NRC BE COMPLETE AND ACCURAT ... RESPECTS ... 1001 MAKES IT A CRIMINAL O REPRESENTATION TO ANY DEPA ... OF THE UN ... ANY MATTER WITHIN ITS JURISDI

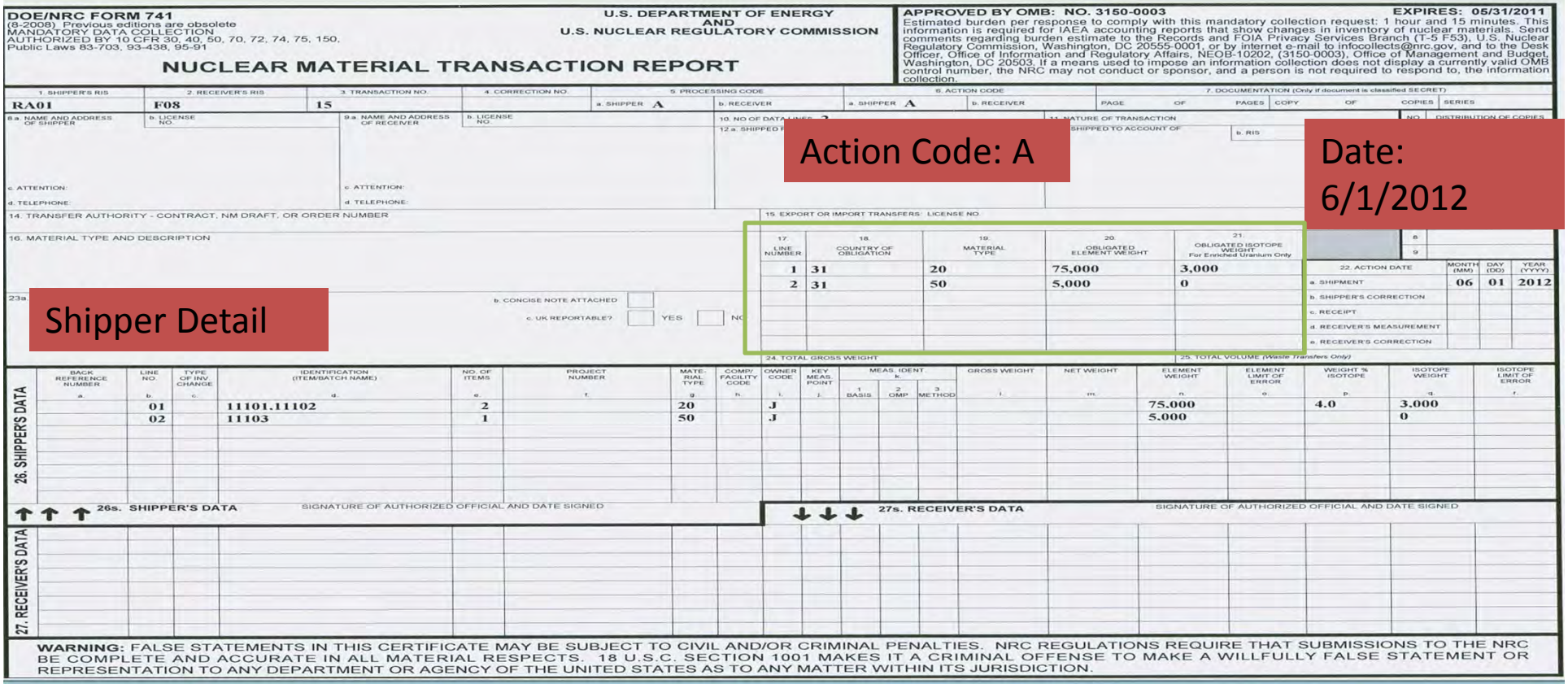
Obligations Case Study

Case 1 741 Evaluation (Direct Import)

- Is the obligation country code valid?
  - 31 is the correct code for Australian obligations
- By material type, is the total amount obligated less than or equal to the sum of detail lines?
  - Enriched uranium obligation total is equal to the sum of material type enriched uranium detail lines
  - Plutonium obligation total is equal to the sum of plutonium detail lines

Obligations Case Study

Case 1 NMMSS 741 (Shipper Document)



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U.S. DEPARTMENT OF ENERGY
AND
U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0003 EXPIRES: 05/31/2011

Estimated burden per response to comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for IAEA accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the Records and FOIA Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0003), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

NUCLEAR MATERIAL TRANSACTION REPORT

1. SHIPPER'S RIS	2. RECEIVER'S RIS	3. TRANSACTION NO.	4. CORRECTION NO.	5. PROCESSING CODE a. SHIPPER	b. RECEIVER	6. ACTION CODE a. SHIPPER	b. RECEIVER	7. DOCUMENTATION (Only if document is classified SECRET) PAGE	OF	PAGES	COPY	OF	COPIES	SERIES
RA01	F08	15		A		A								

Action Code: A

Date: 6/1/2012

8.a. NAME AND ADDRESS OF SHIPPER — b. LICENSE NO. — c. ATTENTION: — d. TELEPHONE:

9.a. NAME AND ADDRESS OF RECEIVER — b. LICENSE NO. — c. ATTENTION: — d. TELEPHONE:

10. NO OF DATA LINES: 2 — 11. NATURE OF TRANSACTION — 12.a. SHIPPED TO ACCOUNT OF — b. RIS — NO. — DISTRIBUTION OF COPIES

14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER

15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.

16. MATERIAL TYPE AND DESCRIPTION

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only
1	31	20	75,000	3,000
2	31	50	5,000	0

Shipper Detail

23a. — b. CONCISE NOTE ATTACHED — c. UK REPORTABLE? YES NO

24. TOTAL GROSS WEIGHT — 25. TOTAL VOLUME (Waste Transfers Only)

22. ACTION DATE	MONTH (MM)	DAY (DD)	YEAR (YYYY)
a. SHIPMENT	06	01	2012
b. SHIPPER'S CORRECTION			
c. RECEIPT			
d. RECEIVER'S MEASUREMENT			
e. RECEIVER'S CORRECTION			

26. SHIPPER'S DATA

BACK REFERENCE NUMBER a.	LINE NO. b.	TYPE OF INV. CHANGE c.	IDENTIFICATION (ITEM/BATCH NAME) d.	NO. OF ITEMS e.	PROJECT NUMBER f.	MATERIAL TYPE g.	COMP/ FACILITY CODE h.	OWNER CODE i.	KEY MEAS. POINT j.	MEAS. IDENT k. 1 BASIS	2 OMP	3 METHOD	GROSS WEIGHT l.	NET WEIGHT m.	ELEMENT WEIGHT n.	ELEMENT LIMIT OF ERROR o.	WEIGHT % ISOTOPE p.	ISOTOPE WEIGHT q.	ISOTOPE LIMIT OF ERROR r.
	01		11101.11102	2		20		J							75.000		4.0	3.000	
	02		11103	1		50		J							5.000			0	

↑ ↑ ↑ 26s. SHIPPER'S DATA — SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

↓ ↓ ↓ 27s. RECEIVER'S DATA — SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

27. RECEIVER'S DATA

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

Obligations Case Study

CASE STUDY 2 – Retransfer to the U.S.

A U.S. NRC facility IDOOBLGS will be receiving a shipment of nuclear material on 10/8/2012 from a facility in Sweden (IMASWEDE) which contain the following:

- 750,000 grams of uranium (5,500 grams of U235) subject to U.S.-Euratom Agreement for Cooperation
- 2,500,000 grams of uranium (110,000 grams of U235) subject to U.S. Australia/Euratom combination Agreement for Cooperation
- 2,550,000 grams of uranium (117,000 grams of U235) subject to U.S. Canada/Euratom combination Agreement of Cooperation

Obligations Case Study

Compare Notification of Import with Prior Communication

- NRC notifies facilities of foreign obligation notices from agreement entities
- Are the following items consistent
  - Shipper and receiver
  - Shipment date
  - Mass
  - Third country obligations

EURATOM

Prior Notification of US Import

1	Shipper:	IDOOBLGS		
2	Receiver:	IMASWEDE		
3	Receipt RIS:	F10		
4	Date of shipment:	8/1/2012		
5	Category of Material:	LEU		
		Element	Isotope	
6	Mass:	5,800,000	232,500	
7	Physical form:	fuel rods		
			Element	Isotope
8	Third country obligations:	Canada	2,500,000	110,000
		Australia	2,550,000	117,000

Total Uranium
5,050,000;227,000

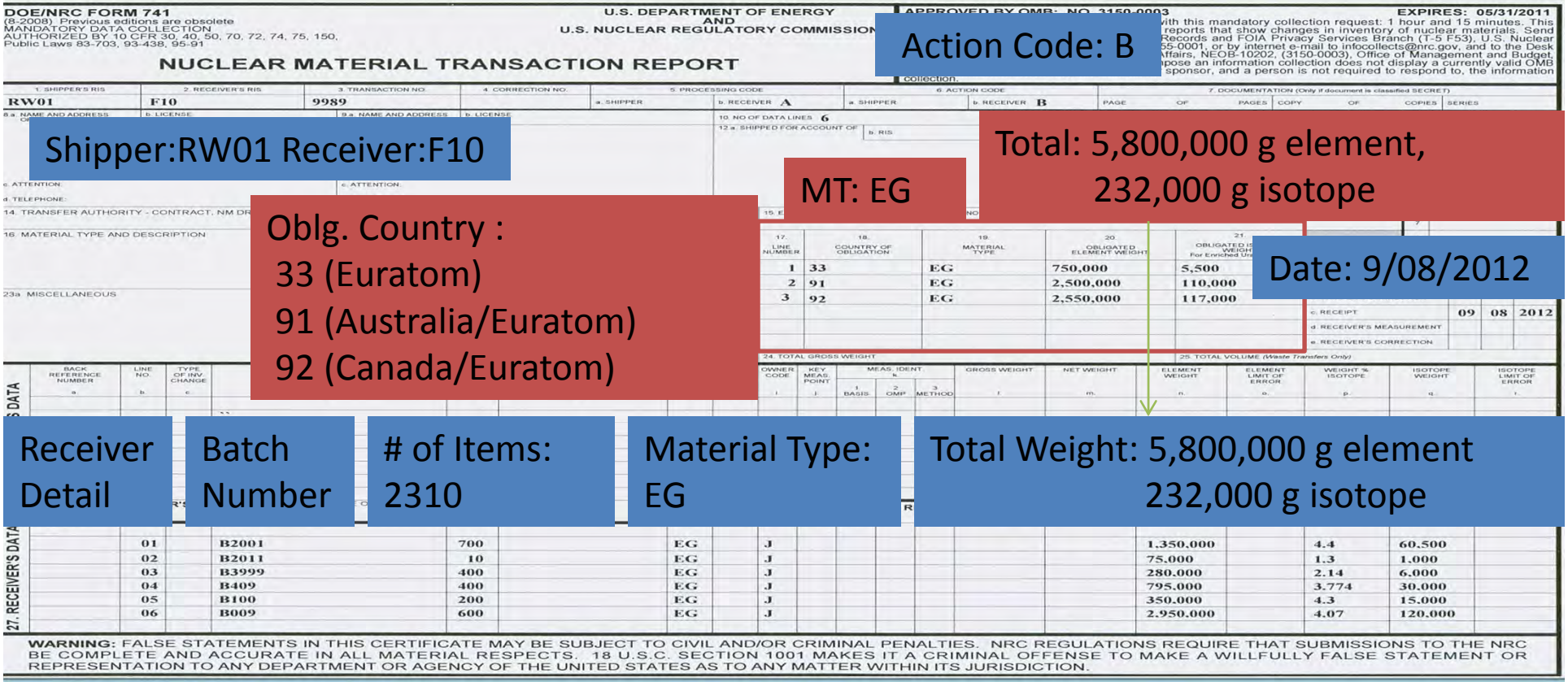
Obligations Case Study

Case 2 Evaluation (Retransfer)

- Are the shipper and receiver valid NMMSS RIS?
  - The RIS for IDOOBLGS is F10
  - The RIS for IMASWEDE is RW01
- Is the reporting unit used appropriate for NMMSS reporting?
  - The case description shows the correct NMMSS reporting quantities of enriched uranium in grams
- Is the total quantity above NMMSS minimum reporting amount?
  - For enriched uranium and plutonium, NMMSS requires reporting for amounts equal to or greater than 1 gram

Obligations Case Study

Case 2 NMMSS 741 (Receiver Document)



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EXPIRES: 05/31/2011

NUCLEAR MATERIAL TRANSACTION REPORT

Action Code: B

1. SHIPPER'S RIS	2. RECEIVER'S RIS	3. TRANSACTION NO.	4. CORRECTION NO.	5. PROCESSING CODE a. SHIPPER	5. PROCESSING CODE b. RECEIVER	6. ACTION CODE a. SHIPPER	6. ACTION CODE b. RECEIVER
RW01	F10	9989			A		B

Shipper:RW01 Receiver:F10

MT: EG

Total: 5,800,000 g element, 232,000 g isotope

Date: 9/08/2012

Oblg. Country :
33 (Euratom)
91 (Australia/Euratom)
92 (Canada/Euratom)

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED I WEIGHT For Enriched Ur
1	33	EG	750,000	5,500
2	91	EG	2,500,000	110,000
3	92	EG	2,550,000	117,000

c. RECEIPT 09 08 2012

Receiver Detail

Batch Number

# of Items: 2310

Material Type: EG

Total Weight: 5,800,000 g element 232,000 g isotope

27. RECEIVER'S DATA

	BACK REFERENCE NUMBER a.	LINE NO. b.	TYPE OF INV. CHANGE c.			OWNER CODE i.	KEY MEAS. POINT j.	MEAS. IDENT. k. 1 BASIS	2 OMP	3 METHOD	GROSS WEIGHT l.	NET WEIGHT m.	ELEMENT WEIGHT n.	ELEMENT LIMIT OF ERROR o.	WEIGHT % ISOTOPE p.	ISOTOPE WEIGHT q.	ISOTOPE LIMIT OF ERROR r.
		01		B2001	700	EG	J						1,350,000		4.4	60.500	
		02		B2011	10	EG	J						75.000		1.3	1.000	
		03		B3999	400	EG	J						280.000		2.14	6.000	
		04		B409	400	EG	J						795.000		3.774	30.000	
		05		B100	200	EG	J						350.000		4.3	15.000	
		06		B009	600	EG	J						2.950.000		4.07	120.000	

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)

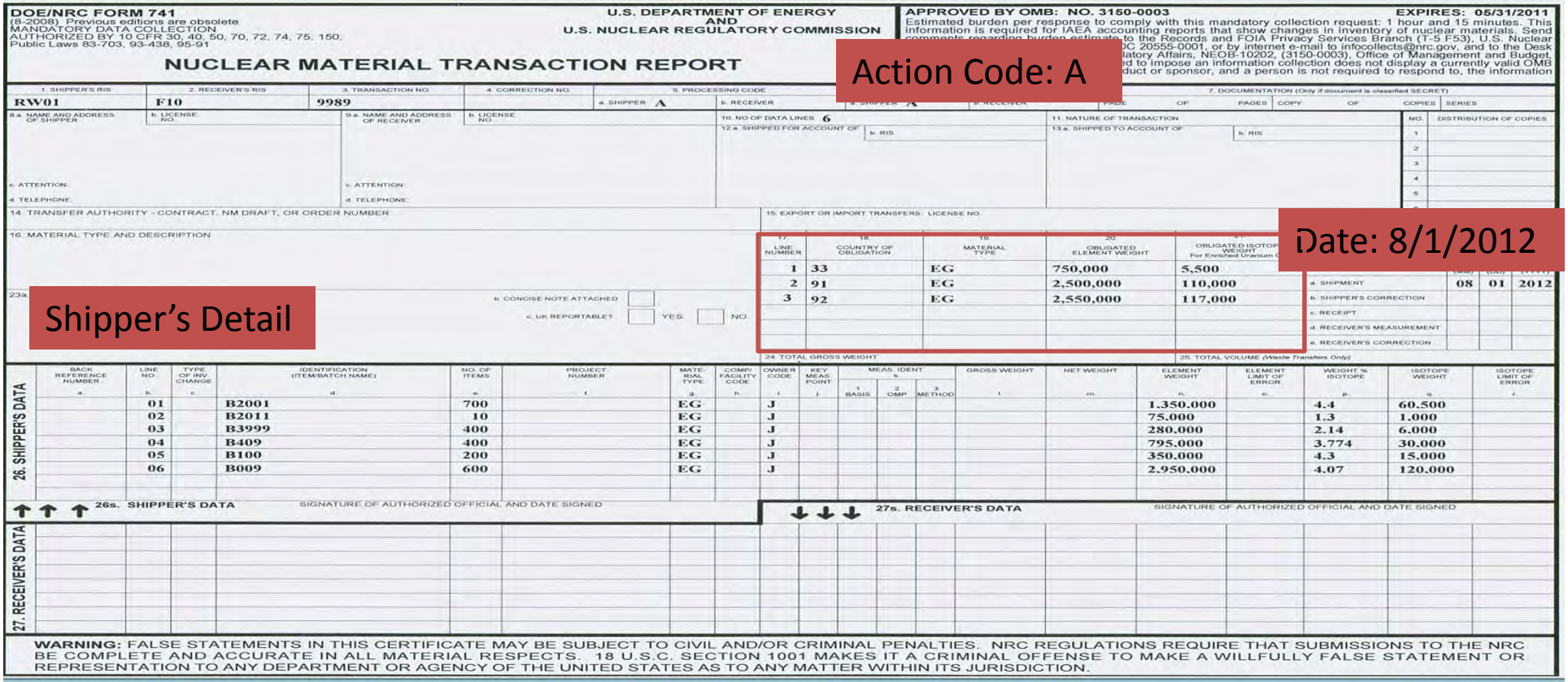
NMMSS 2013

USERS ANNUAL TRAINING MEETING

MAY 20-23, 2013 - ST. LOUIS, MISSOURI

Obligations Case Study

Case 2 NMMSS 741 (Shipper Document)



DOE/NRC FORM 741
(8-2008). Previous editions are obsolete
MANDATORY DATA COLLECTION
AUTHORIZED BY 10 CFR 30, 40, 50, 70, 72, 74, 75, 150.
Public Laws 83-703, 93-438, 95-91

U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0003 EXPIRES: 05/31/2011

Estimated burden per response to comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for IAEA accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the Records and FOIA Privacy Services Branch (T-5 F53), U.S. Nuclear ... DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk ...latory Affairs, NEOB-10202, (3150-0003), Office of Management and Budget. ...ed to impose an information collection does not display a currently valid OMB ...duct or sponsor, and a person is not required to respond to, the information

NUCLEAR MATERIAL TRANSACTION REPORT

Action Code: A

Date: 8/1/2012

Shipper's Detail

1. SHIPPER'S RIS	2. RECEIVER'S RIS	3. TRANSACTION NO.	4. CORRECTION NO.	5. PROCESSING CODE		7. DOCUMENTATION (Only if document is classified SECRET)			
				a. SHIPPER	b. RECEIVER	PAGE	OF	PAGES	COPY OF COPIES
RW01	F10	9989		A					

8.a. NAME AND ADDRESS OF SHIPPER	b. LICENSE NO.	9.a. NAME AND ADDRESS OF RECEIVER	b. LICENSE NO.	10. NO OF DATA LINES	11. NATURE OF TRANSACTION
				6	

12.a. SHIPPED FOR ACCOUNT OF	b. RIS	13.a. SHIPPED TO ACCOUNT OF	b. RIS

NO.	DISTRIBUTION OF COPIES
1	
2	
3	
4	
5	

c. ATTENTION:
d. TELEPHONE:

c. ATTENTION:
d. TELEPHONE:

14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER

15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.

16. MATERIAL TYPE AND DESCRIPTION

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium
1	33	EG	750,000	5,500
2	91	EG	2,500,000	110,000
3	92	EG	2,550,000	117,000

	(MM)	(DD)	(YYYY)
a. SHIPMENT	08	01	2012
b. SHIPPER'S CORRECTION			
c. RECEIPT			
d. RECEIVER'S MEASUREMENT			
e. RECEIVER'S CORRECTION			

23a.
b. CONCISE NOTE ATTACHED
c. UK REPORTABLE? YES NO

24. TOTAL GROSS WEIGHT

25. TOTAL VOLUME (Waste Transfers Only)

26. SHIPPER'S DATA

BACK REFERENCE NUMBER a.	LINE NO. b.	TYPE OF INV. CHANGE c.	IDENTIFICATION (ITEM/BATCH NAME) d.	NO. OF ITEMS e.	PROJECT NUMBER f.	MATERIAL TYPE g.	COMP./ FACILITY CODE h.	OWNER CODE i.	KEY MEAS. POINT j.	MEAS. IDENT k. 1 BASIS	2 OMP	3 METHOD	GROSS WEIGHT l.	NET WEIGHT m.	ELEMENT WEIGHT n.	ELEMENT LIMIT OF ERROR o.	WEIGHT % ISOTOPE p.	ISOTOPE WEIGHT q.	ISOTOPE LIMIT OF ERROR r.
	01		B2001	700		EG		J							1.350.000		4.4	60.500	
	02		B2011	10		EG		J							75.000		1.3	1.000	
	03		B3999	400		EG		J							280.000		2.14	6.000	
	04		B409	400		EG		J							795.000		3.774	30.000	
	05		B100	200		EG		J							350.000		4.3	15.000	
	06		B009	600		EG		J							2.950.000		4.07	120.000	

26s. SHIPPER'S DATA — SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

27s. RECEIVER'S DATA — SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

27. RECEIVER'S DATA

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

Obligations Case Study

CASE STUDY 3 – Domestic Obligation Exchange

A United States facility DOEFAC1 will be exchanging obligations with U.S. facility IDOOBLGS. The following obligations will be exchanged.

- 500,000 grams of uranium (20,000 grams of U235) obligated to Australia
- 75,000 grams of uranium (3,000 grams of U235) obligated to Canada

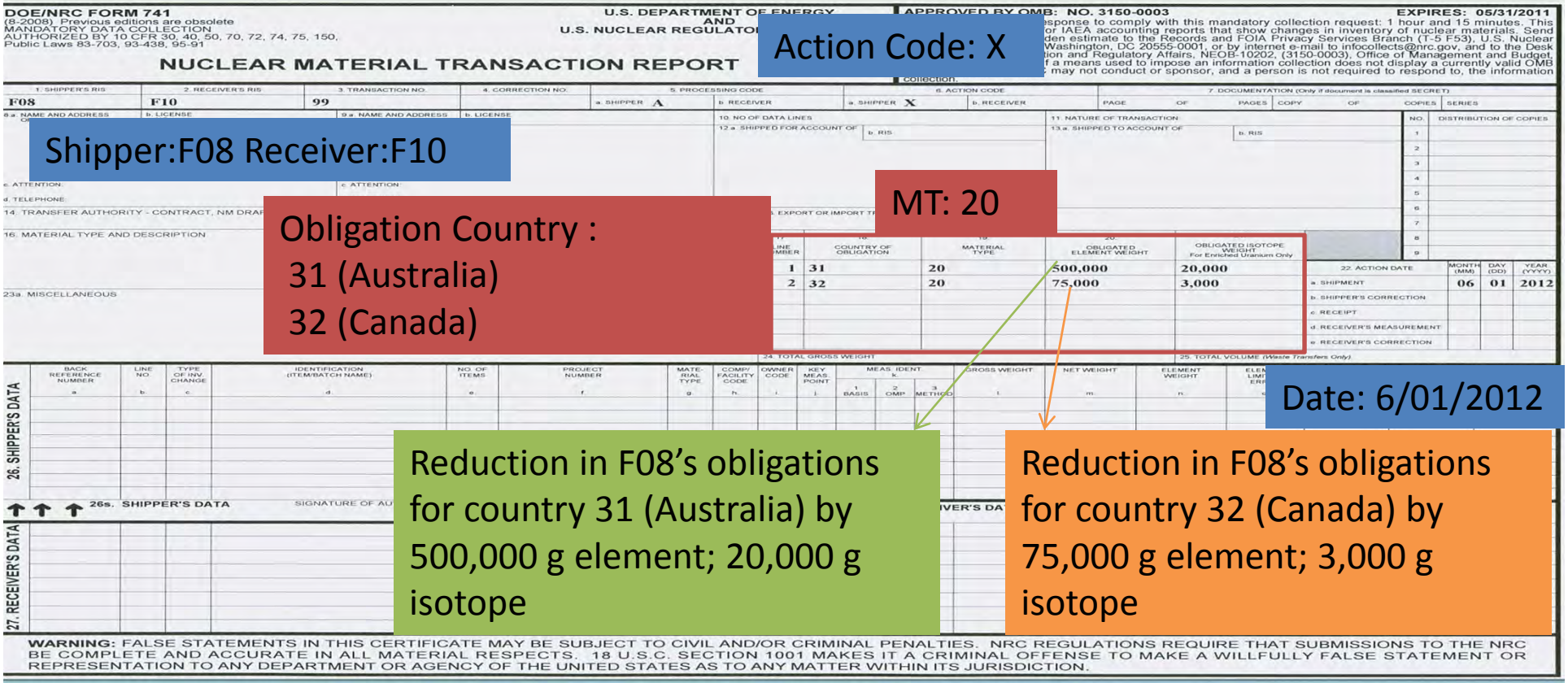
Obligations Case Study

Case 3 Evaluation (Obligation Exchange)

- Are the shipper and receiver valid NMMSS RIS?
  - The RIS for DOEFAC1 is F08
  - The RIS for IDOOBLGS is F10
- Is the reporting unit used appropriate for NMMSS reporting?
  - The case description shows the quantity of enriched uranium in grams. NMMSS requires enriched uranium to be reported in grams.
- Is the total quantity above NMMSS minimum reporting amount?
  - For enriched uranium, NMMSS requires reporting for amounts equal to or greater than 1 gram.

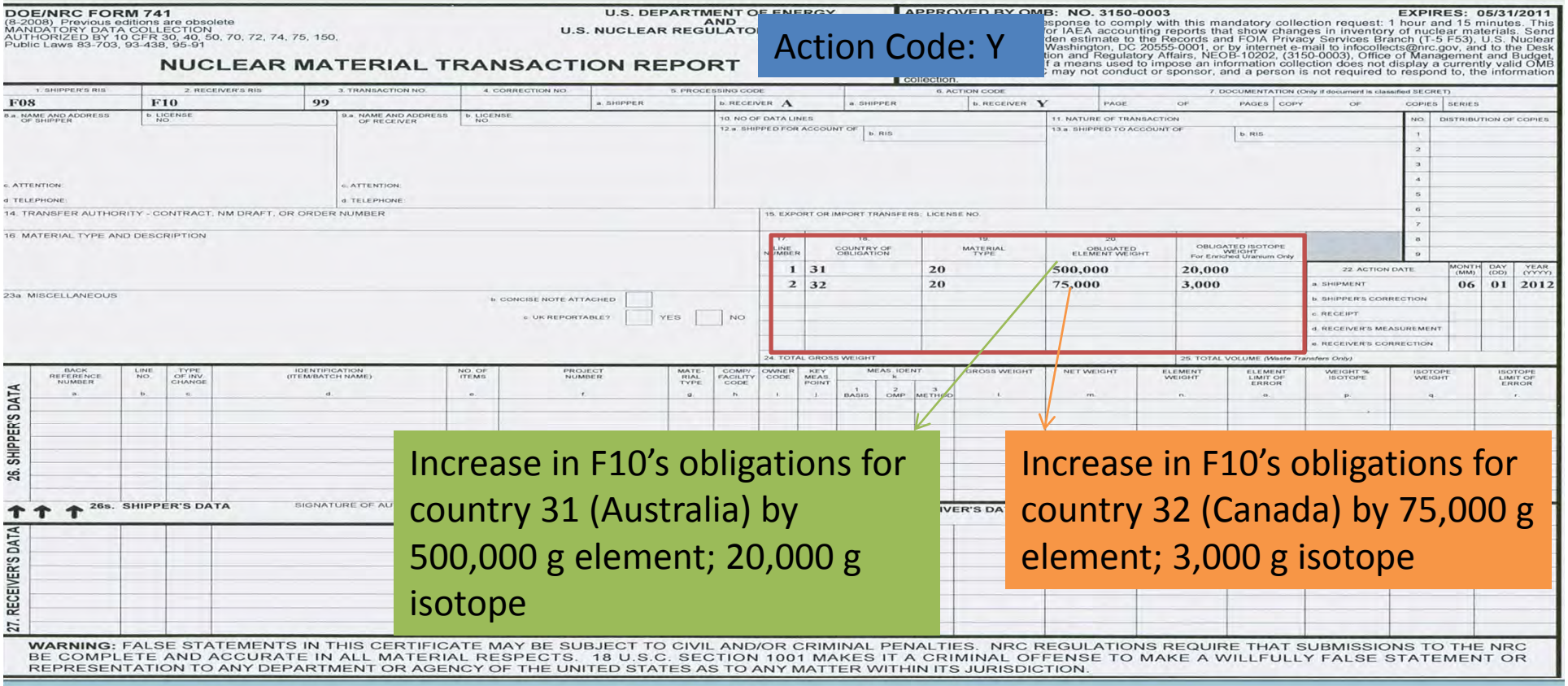
Obligations Case Study

Case 3 NMMSS 741 (Shipper Side Exchange)



Obligations Case Study

Case 3 NMMSS 741 (Receiver Side Exchange)



DOE/NRC FORM 741
(8-2008) Previous editions are obsolete
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AUTHORIZED BY 10 CFR 30, 40, 50, 70, 72, 74, 75, 150,
Public Laws 83-703, 93-438, 95-91

U.S. DEPARTMENT OF ENERGY
AND
U.S. NUCLEAR REGULATO

APPROVED BY OMB: NO. 3150-0003 EXPIRES: 05/31/2011

NUCLEAR MATERIAL TRANSACTION REPORT

Action Code: Y

1. SHIPPER'S RIS	2. RECEIVER'S RIS	3. TRANSACTION NO.	4. CORRECTION NO.	5. PROCESSING CODE a. SHIPPER	5. PROCESSING CODE b. RECEIVER	6. ACTION CODE a. SHIPPER	6. ACTION CODE b. RECEIVER
F08	F10	99			A		Y

17. LINE NUMBER | 18. COUNTRY OF OBLIGATION | 19. MATERIAL TYPE | 20. OBLIGATED ELEMENT WEIGHT | OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only
1	31	20	500,000	20,000
2	32	20	75,000	3,000

22. ACTION DATE

	MONTH (MM)	DAY (DD)	YEAR (YYYY)
a. SHIPMENT	06	01	2012
b. SHIPPER'S CORRECTION			
c. RECEIPT			
d. RECEIVER'S MEASUREMENT			
e. RECEIVER'S CORRECTION			

Increase in F10's obligations for country 31 (Australia) by 500,000 g element; 20,000 g isotope

Increase in F10's obligations for country 32 (Canada) by 75,000 g element; 3,000 g isotope

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

Obligations Case Study

CASE STUDY 4 – Correcting Obligations

A U.S. facility Superduper (RIS F08) reported receiving a shipment of nuclear material on 3/1/2012 from the U.S. facility FantasticPlace (RIS F12) which contained 75,000 grams of Uranium (3000 grams of U235) and 5,000 grams of Plutonium. All of the uranium quantities were obligated to Japan. All of the plutonium was obligated to Euratom.

THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)

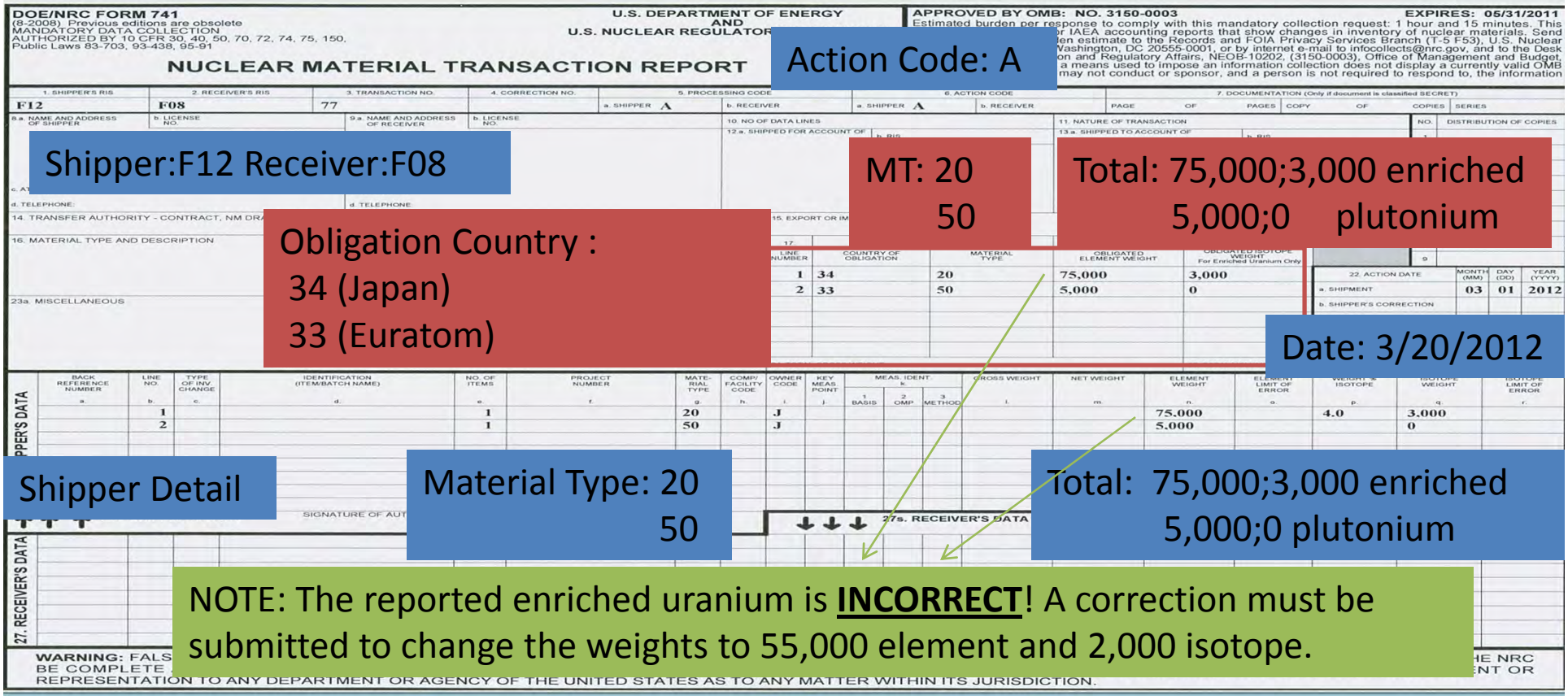
NMMSS 2013

USERS ANNUAL TRAINING MEETING

MAY 20-23, 2013 - ST. LOUIS, MISSOURI

Obligations Case Study

Case 4 NMMSS 741 (Original Document)



DOE/NRC FORM 741
(8-2008) Previous editions are obsolete
MANDATORY DATA COLLECTION
AUTHORIZED BY 10 CFR 30, 40, 50, 70, 72, 74, 75, 150, Public Laws 83-703, 93-438, 95-91

U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATOR

APPROVED BY OMB: NO. 3150-0003 EXPIRES: 05/31/2011

NUCLEAR MATERIAL TRANSACTION REPORT

Action Code: A

Shipper:F12 Receiver:F08

MT: 20
50

Total: 75,000;3,000 enriched
5,000;0 plutonium

Obligation Country :
34 (Japan)
33 (Euratom)

1. SHIPPER'S RIS	2. RECEIVER'S RIS	3. TRANSACTION NO.	4. CORRECTION NO.	5. PROCESSING CODE a. SHIPPER	5. PROCESSING CODE b. RECEIVER	6. ACTION CODE a. SHIPPER	6. ACTION CODE b. RECEIVER
F12	F08	77		A		A	

LINE NUMBER	COUNTRY OF OBLIGATION	MATERIAL TYPE	OBLIGATED ELEMENT WEIGHT	OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only
1	34	20	75,000	3,000
2	33	50	5,000	0

22. ACTION DATE — a. SHIPMENT: MONTH (MM) 03, DAY (DD) 01, YEAR (YYYY) 2012

Date: 3/20/2012

Shipper Detail

LINE NO.	IDENTIFICATION (ITEM/BATCH NAME)	NO. OF ITEMS	MATERIAL TYPE	OWNER CODE	ELEMENT WEIGHT	WEIGHT OF ISOTOPE	ISOTOPE WEIGHT
1		1	20	J	75.000	4.0	3.000
2		1	50	J	5.000		0

Material Type: 20
50

Total: 75,000;3,000 enriched
5,000;0 plutonium

27s. RECEIVER'S DATA

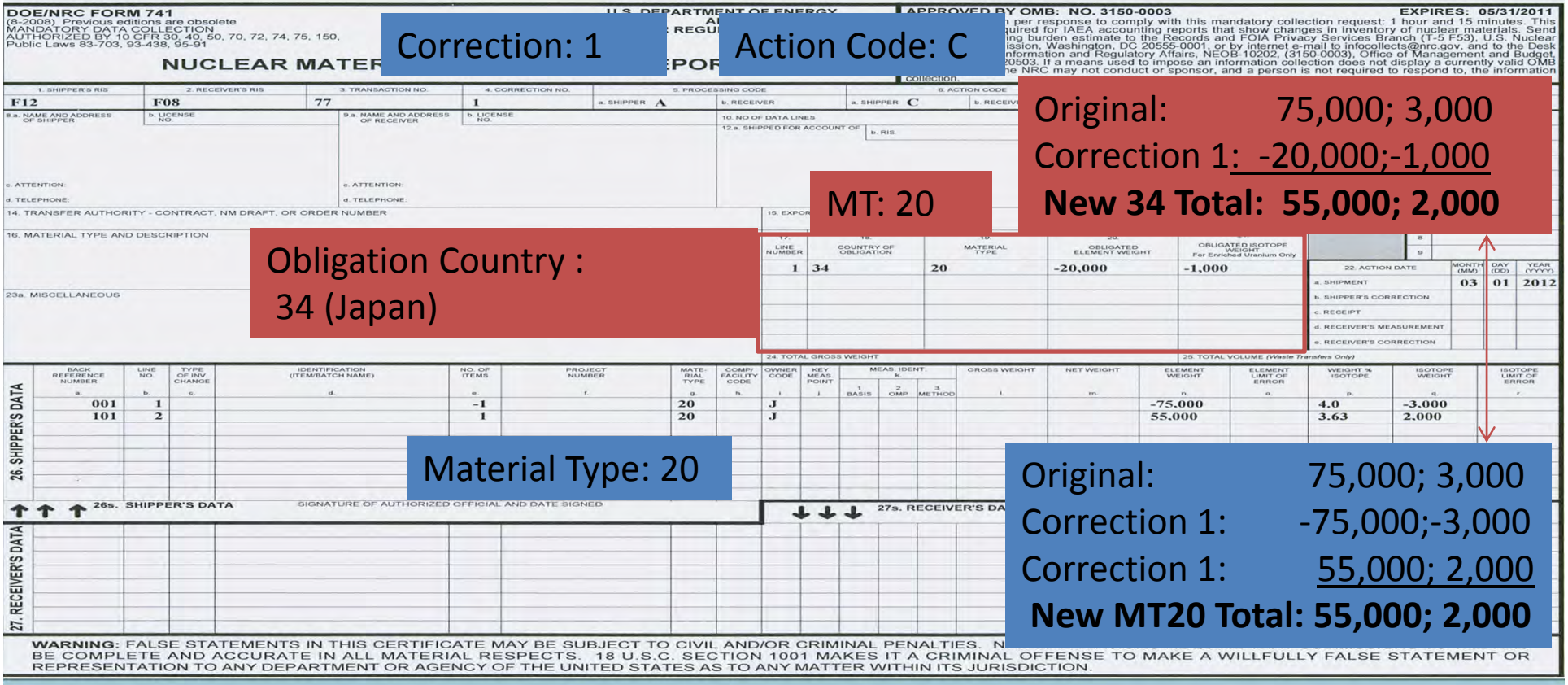
27. RECEIVER'S DATA

WARNING: FALS... BE COMPLETE ... REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

NOTE: The reported enriched uranium is **INCORRECT**! A correction must be submitted to change the weights to 55,000 element and 2,000 isotope.

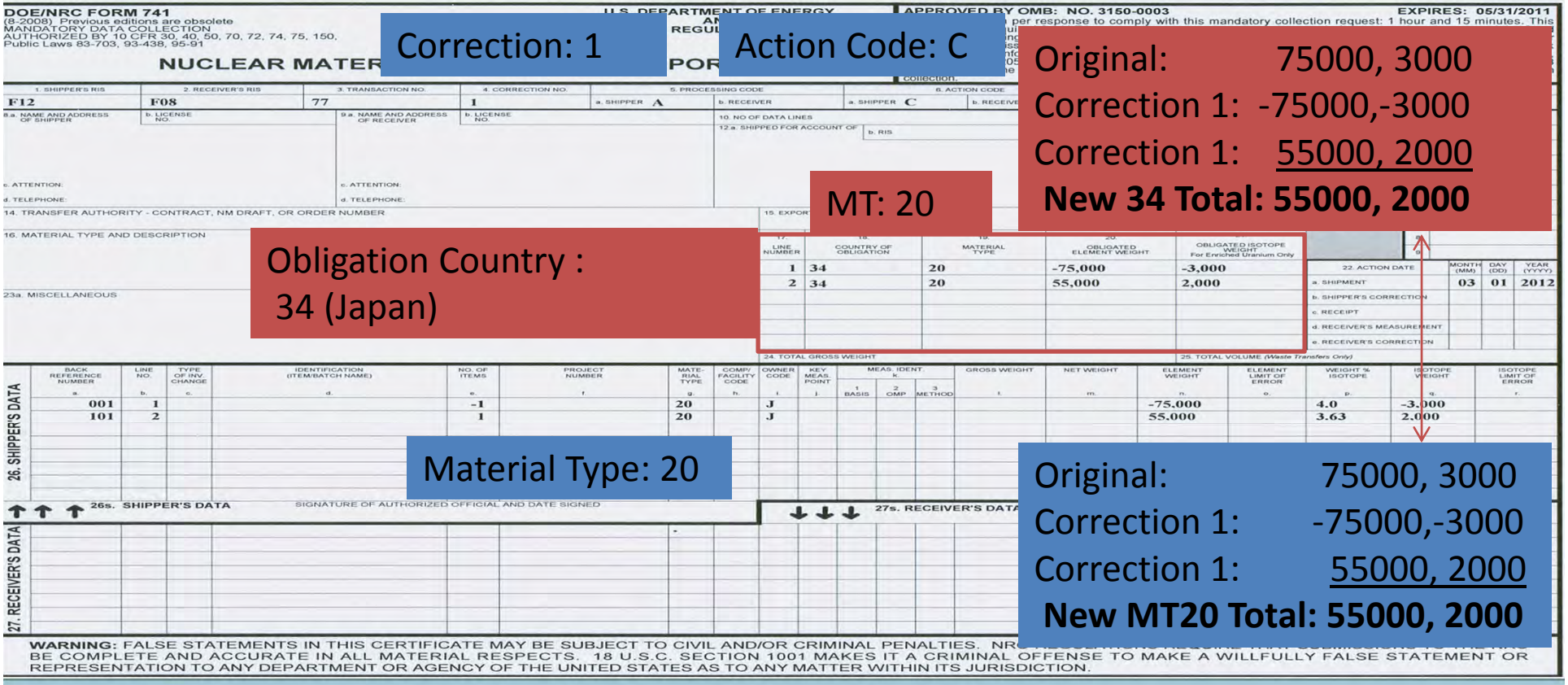
Obligations Case Study

Case 4 NMMSS 741 (Correction Option 1)



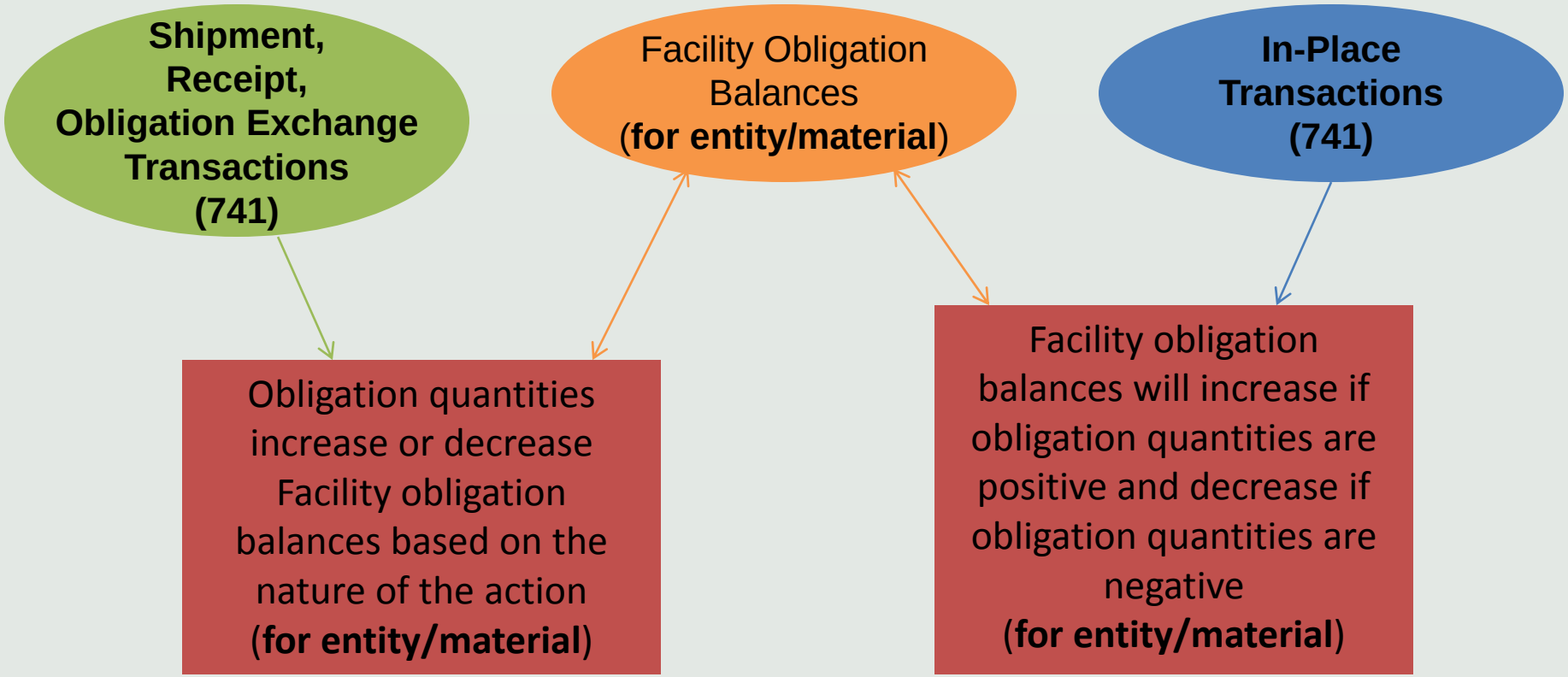
Obligations Case Study

Case 4 NMMSS 741 (Correction Option 2)



Obligations Case Study

How Does NMMSS Process Obligations



Obligations Case Study

Summary

Watch the sign of your obligation! A positive quantity is not always an increase to your obligations!

Licensees Do not forget to report obligations on your material balance reports.

Obligations are reconciled at facility level as well as with agreement entities

Do not report more obligations than you are shipping or receiving.

Obligations are cumulative.

Review the IA-OBL-05 report to verify Facility Obligation Balances.

Is your obligation layered? Be sure and use the correct obligation country code.

Obligations Case Study

Questions?

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Foreign Obligations Case Study
Thursday May 23rd

Pete Dessaules

Brian Horn

Jessica Norles

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Background

- On several occasions, we have been asked to participate in some discussion on tracking and reporting of nuclear materials
- Some of the discussions have included speaking with working staff in other countries

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Export observations

- Variations in how export data is reported to NMMSS by U.S. industry

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Simple case, #1

- Exporter statement
  - one fuel assembly #0001
  - 350 kgs EU / 15kgs U-235
  - No foreign obligations exported
- Importer view
  - One fuel assembly #0001
  - 350 kgs EU / 15 kgs U-235
  - No foreign obligations on material

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Simple case, #2

- Exporter statement
  - One fuel assembly, #0002
  - 350 kgs EU / 15kgs U-235
  - 15 kgs U-235 Obligated to Australia (#31)
- Importer view
  - One fuel assembly, #0002
  - 350 kgs EU / 15 kgs U-235
  - 15 kgs U-235 Obligated to Australia (#31)

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Simple case, #3

- Exporter statement
  - 3,500 kgs EU / 150 kgs U-235
  - 150 kgs U-235 Obligated to Australia (#31)
- Importer view
  - Fuel Assemblies, #0003 - #0012, each ??
  - 350 kgs EU / 15 kgs U-235
  - 15 kgs U-235 Obligated to Australia (#31)

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Case, #4

- Exporter statement
  - 700 kgs EU / 31 kgs U-235
  - 16 kgs U-235 Obligated to Australia (#31)
  - 15 kgs U-235 no foreign obligations
  - 15 kgs U-235 “WR”
- Importer view
  - Fuel assembly #0301 ??
    - 350 kgs EU / 15.5 kgs U-235
    - 15.5 kgs U-235 Obligated to Australia (#31) ??
    - 15 kgs U-235 “WR” ??
  - Fuel assembly #0302 ??
    - 350 kgs EU / 15.5 kgs U-235
    - 0.5 kgs U-235 Obligated to Australia (#31) ??
    - 15 kgs U-235 no foreign obligations ??

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Constraints on nuclear materials

- Terms and conditions in U.S. Agreement for Cooperation language,
- Possible additional constraints
  - Limits on quantity of uranium imported from a specific country or supplier
  - Requirement that uranium only be imported from country that has signed “Additional Protocol”

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Observations

- 2003 switch from “CCN” to “Obligation Codes”
- Assistance of matching “CCN” information to “Obligation Codes”
- No tracking and reporting of “WR” once exported required

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Observations, continued

- Knowledgeable facility staff seldom involved in communications
- Documenting foreign obligations contained in each fuel assemblies
  - Partially obligated fuel assembly
  - Partial Pu production
- Corrections to documents
- Terminology / communications

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Follow on activities

- Answer follow-on questions
- Share with NMMSS Users what we observed

MC&A Inspection Summary

Plant: Oyster Creek
Region: I
Inspection Date: 5/18 – 5/19/2010

- Violation: None
- Observations: (minor)
  - Issue Report clarity
  - Missing move sheet signature that we self identified in the FASA
  - SNM in the flammable materials section of the warehouse is not a violation but is not a good practice
- Comments:
  - NRC Inspector preferred not doing this during an outage, but doing it when there are Reactor Services available to move the bridge and perform 10-15 bundle spot check verifications
  - Next inspection scheduled for week of September 9, 2013
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Limerick
Region: I
Inspection Date: 6/15 – 6/17/2010

- Violation: None
- Observations: (minor)
  - The inspection was very well coordinated concerning documentation and observation of fuel locations
  - Water in the fuel pool was of good water quality
  - Fuel history sheets were very helpful in tracking fuel
- Comments:
  - The inspector observed fuel locations in the spent fuel pool for a set of fuel bundles
  - Next inspection scheduled for 2013; no date confirmed at this time
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)

NMMSS 2013

USERS ANNUAL TRAINING MEETING

MAY 20-23, 2013 - ST. LOUIS, MISSOURI

Plant: LaSalle
Region: III
Inspection Date: 9/20 – 9/23/2010

- Violation: None
- Observations: None
- Comments:
  - Next inspection scheduled for 2013; no date confirmed at this time
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Clinton
Region: III
Inspection Date: 10/12 – 10/19/2010

- Violation: None
- Observations: None
- Comments:
  - Next inspection scheduled for May 2013
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Peach Bottom
Region: I
Inspection Date: 11/16 – 11/18/2010

- Violation: None
- Observations: (Issue Reports were generated for these observations)
  - The NRC inspector noted two housekeeping examples where SNM in the warehouse was not stored in an appropriate manner. The inspector also identified a posted SNM placard in the warehouse which did not note Reactor Engineering to be contacted about questions or information concerning the SNM
  - The NRC noted the NRC inspection procedure being used was new and requested any feedback for future inspection improvement
  - The NRC inspector specifically recognized Special Nuclear Material Custodian for his inspection support and assistance
- Comments:
  - Next inspection week of May 6, 2013
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Byron
Region: III
Inspection Date: 12/20 – 12/22/2010

- Violation #1: Licensee identified violation of very low significance (Non-cited Violation, NCV)
  - Byron failed to establish and follow MC&A procedure and conduct adequate physical inventories of all SNM in its possession
  - Specifically, the dosimeter seed material in the reactor vessel specimens, which contained SNM after irradiation, were not controlled and accounted for as SNM and piece-counted during annual physical inventories
  - Byron corrected the deficiency in September 2010
- NRC Identified Minor Violation (Undocumented)
  - Annual Inventory Error
  - Record keeping issue
- Observations: None
- Comments:
  - Next inspection scheduled for 2013; no date confirmed at this time
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Peach Bottom
Region: I
Inspection Date: 5/6 – 5/9/2013

- Violations: none
- Observations / Comments:
  - SNM items not segregated from non-SNM items in Warehouse and SFP
  - Signs identifying SNM stored in Warehouse could be improved
  - Procedure guidance doesn't adequately address potential of aggregation of non-fuel SNM exceeding reportability threshold
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: TMI
Region: I
Inspection Date: 1/11 – 1/12/2011

- Violation #1: Licensee identified green Non-cited Violation
  - 6 radioactive sources were being controlled under the Rad Pro procedures but should have also been controlled under the SNM procedures because they contained small amounts of Pu
  - These were in a drum of sources ready for disposal from TMI-2 cleanup but under TMI-1's control
  - Were not being tracked under SNM program
- Observations:
  - NRC Inspector reviewed the fuel rod transfer logs from T1R18
  - It was noted that in some instances, neither the Y nor the N had been circled in the column to record whether the fuel rod was seated in its destination location. For some log entries, neither the Y nor the N was circled. This does not meet the expectations for procedure usage at TMI. It also creates a potential ambiguity as to the status of the fuel rod - full down or not.
- Comments: None
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)
NMMSS 2013
USERS ANNUAL TRAINING MEETING
MAY 20-23, 2013 - ST. LOUIS, MISSOURI

Plant: Dresden
Region: III
Inspection Date: 06/13 – 06/17/11

- Violation: None
- Observations:
  - The NRC noted that the program has made some great improvements since 2007-2008
  - Program owner was very knowledgeable of the program
  - Program makes good use of the peer calls to ensure consistency within the fleet
- Comments: None
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Braidwood
Region: III
Inspection Date: 11/9/2012

- Violation #1: Licensee identified violation of very low significance (Non-cited Violation, NCV)
  - Same issue as Byron and Zion; identified at Braidwood in August of 2010
  - Failure in the past to treat coupons that were inserted in the reactor vessel as part of monitoring the stresses the reactor vessel receives, which were not treated as special nuclear material and were not entered into the MC&A program
- Observations: The Inspector noted a good use of CAP in documenting the low level issues associated with reactor engineering items
- Comments: None
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Zion
Region: III
Inspection Date: 11/9/2012

- Violation #1: NCV
  - Failure to adequately account for dosimeter seed material in the reactor vessel specimen capsules, which contained SNM after irradiation
- Violation #2: NOV
  - Failure to keep adequate records of all SNM in the licensee's possession and failure to maintain and follow procedures sufficient to account for all SNM. Specifically, the licensee failed to keep complete accounting and inventory records for 43 incore detectors
- Observations: None
- Comments: None
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)

NMMSS 2013

USERS ANNUAL TRAINING MEETING

MAY 20-23, 2013 - ST. LOUIS, MISSOURI

Plant: Quad Cities
Region: III
Inspection Date: 12/18/2012

- Violation: None
- Observations:
  - No issues of significance were identified
  - The MC&A program at Quad Cities is considered effective
- Comments: None
- Contact: Rosanne Carmean 630-657-2166 rosanne.carmean@exeloncorp.com

Plant: Fermi 2
Region: 3
Inspection Date: 11/5-9/2012

- Violation #1: Failure to Adequately Install Tamper Sealing Devices on Two Containers Containing Local Power Range Monitors (LPRMs)
  - Significance Level: Green Non-cited – Cornerstone: Security
  - Cross Cutting Aspect: H.2.c, Human Performance

Plant: Fermi 2
Region: 3
Inspection Date: 11/5-9/2012

Observations / Comments:

- The LPRM Box is approximately 35 feet long with 6 lid sections. Four of the lid sections had tamper seals installed. Two lid sections did not. It was believed that since the lid sections overlapped, the un-sealed sections would not be able to be removed without disturbing the seals on the other sections. That proved to be incorrect.

- Procedure guidance was not adequate to ensure that sufficient tamper-seals were installed.

Plant: Fermi 2
Region: 3
Inspection Date: 11/5-9/2012

- Inspection occurred 2 years into the 3-year interval and DTE was given 1-month notice of the inspection.

- Contact: (e.g., Matt Kirkland (734) 586-1852 kirklandm@dteenergy.com)

Plant: Hope Creek
Region: 1
Inspection Date: 5/29-5/31

- Will send out an update once the inspection happens
- Contact: Michelle Baca, 856.339.1049, michelle.baca@pseg.com

Plant: Salem U1 & U2
Region: 1
Inspection Date: TBD (1Q 2014)

- Contact: Michelle Baca, 856.339.1049, michelle.baca@pseg.com

Plant: Wolf Creek
Region: IV
Inspection Date:Feb 4-7, 2013

- Violation #1: Performed inventory of non-installed incore detectors in containment every refueling vice every 12 months.
  - Reference ANSI N15.8-2009, Section 8.3.5
  - Significance Level: Green Noncited
  - Cross Cutting Aspect: H.1.b, Conservative assumptions in decision making
- Observations / Comments:
  - NRC Inspector questioned the absence of overall guidance on the tamper indication seal program in the Quality program
- Contact: Paul Adam (620)364-8831x4761 paadam@wcnoc.com